



**[Billing Code 4140-01-P]**

**DEPARTMENT OF HEALTH AND HUMAN SERVICES**

**National Institutes of Health**

**Government-Owned Inventions; Availability for Licensing**

**AGENCY:** National Institutes of Health, HHS.

**ACTION:** Notice.

**SUMMARY:** The inventions listed below are owned by an agency of the U.S.

Government and are available for licensing to achieve expeditious commercialization of results of federally-funded research and development.

**FOR FURTHER INFORMATION CONTACT:** Licensing information may be obtained by emailing the indicated licensing contact at the National Heart, Lung, and Blood, Office of Technology Transfer and Development Office of Technology Transfer, 31 Center Drive Room 4A29, MSC2479, Bethesda, MD 20892-2479; telephone: 301-402-5579. A signed Confidential Disclosure Agreement may be required to receive any unpublished information.

**SUPPLEMENTARY INFORMATION:** Technology description follows.

TSLP for treatment of pulmonary methicillin-resistant *S. aureus* (MRSA) infection.

Available for licensing and commercial development is a patent estate covering methods of promoting the host defense of a patient suffering from or at risk of a bacterial infection (Methicillin-resistant *Staphylococcus aureus* (MRSA) infection in particular) by administering a thymic stromal lymphopoietin (TSLP) protein or polypeptide. TSLP induces neutrophil mediated killing of MRSA bacteria mediated by reactive oxygen species and complement. Community-acquired *Staphylococcus aureus* infections often present as serious skin infections in otherwise healthy individuals and have become a worldwide epidemic fueled by the emergence of strains with antibiotic resistance. The cytokine TSLP is highly expressed in the skin and in other barrier surfaces and plays a deleterious role by promoting T helper cell type 2 (TH2) responses during allergic diseases. The present methodology is based on a finding of non-TH2's role for TSLP in enhancing neutrophil killing of MRSA during an in vivo skin infection. TSLP also enhances killing of *Streptococcus pyogenes*, another clinically important cause of human skin infections. Unexpectedly, TSLP mechanistically mediates antibacterial effects by directly engaging the complement C5 system to modulate production of reactive oxygen species by neutrophils.

**Potential Commercial Applications:**

- MRSA infection

**Inventors:** Warren Leonard, Erin West, Rosanne Spolski (all of NHLBI) and Christopher Garcia (Stanford)

**Relevant Publications:**

- J Immunol May 1, 2016, 196 (1 Supplement) 60.5;
- Sci Immunol. 2016 Nov 18;1(5)

**Intellectual Property:** HHS Reference No. E-034-2016,

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